

3. Program Effectiveness

Bridges Supplemental Educational Services program will be a new component of Bridges to the Future; thus, it has yet to establish a record of effectiveness and success, however, Bridges to the Future has been providing after-school programs in Flint for seven years. Flint Community Schools has aligned all after-school activities under the Bridges to the Future umbrella including: 21st Century Community Learning Centers.

Bridges to the Future after-school model includes one hour of Mind Time activities and one hour of R.A.P.S.S. activities. Mind Time refers to all programs and activities that focus on academic enrichment in a large group setting. R.A.P.S.S. is an acronym for Recreation And other Personal Skills for Students. R.A.P.S.S. refers to clubs, programs and activities that are enriching in nature. This includes sports, fitness, recreation, arts, culture, health and general youth asset building activities and often times includes a variety of community partners such as the public library, local institutions of higher learning, Girl Scouts and the Flint Culture Center. The Bridges after-school program model has proven successful in increasing student connectedness to school.

Research-based instruction

Bridges Supplemental Educational Services will be one of the program components operating under the Bridges umbrella. Bridges Supplemental Educational Services will provide a more focused and concentrated supplemental academic resource to eligible students performing under grade level who are eligible for supplemental educational services. Bridges Supplemental Educational Services will use a multi-curricula approach to delivering high quality instruction to students. Among the programs and curricula that will be used are Harcourt Math, Orchard, and Accelerated Reader. Other programs may include Wilson Reading, the Michigan Language Progress Profile (MLPP) and HOSTS Math.

Harcourt Math

The Flint Community Schools Academic Standards Department are adopting, on a district wide level, Harcourt Math for grades K-8 for the 2004-2005 school year. Harcourt Math is aligned with the state of Michigan standards and benchmarks as well as providing high quality, research based instruction that supports the BSES programming components. The district-wide adoption of Harcourt Math allows for consistent content instruction from school-to-school and ease of transition from day school learning to after school learning.

The instructional design of Harcourt Math reinforces research-based strategies that lead to improved student achievement. These strategies, include but are not limited to, direct instruction, strategy and problem solving instruction, practice and review, vocabulary development, visual learning and modeling, manipulative, curriculum based assessments and closure.

What the research says about Direct Instruction:

A report from the American Institutes for Research for AASA, AFT, NAESP, NASSP, and NEA of all school wide reform models indicated that 32 of 34 qualifying studies demonstrated a positive effect of Direct Instruction on student achievement. In addition, DI was reported effective in improving overall achievement plus achievement in language,

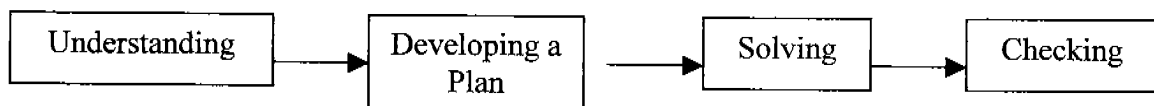
reading, mathematics, spelling, health and science. Perhaps most interesting, it had a positive effect on these affective behaviors and social skills: self esteem/concept, attitudes toward self and school, attribution of success or failure to self or outside, sense of responsibility and high school success.

What the research says about Strategy and Problem Solving Instruction:

“A review of solution strategies suggest that students need to utilize their prior knowledge to make sense of the language in the problem to participate in discourse with others in order to identify the relevant information that might lead to a solution, and to explore a range of problems solving strategies.” (Roti, Trahey, & Zerafa, 2000, p. 1)

Strategy and Problem Solving Instruction aids in developing students’ conceptual understanding and skill proficiency by overtly teaching specific strategies. Teaching multiple strategies provides students with the framework to complete math problems as well as reinforcing concepts such as: place-value, estimation, and basic fact memorization. In their comprehensive review of high-quality experimental mathematics research, Dixon et al. (1998) found that 11 of 13 studies that had specifically investigated strategy instruction found positive effects for particular types of strategy instruction. For example, teaching number fact family strategies, addition and subtraction strategies, and self-instruction strategies were all found to be effective. Overall, there was strong support for overt strategy instruction.

When Problem Solving skills are taught with an ongoing focus on using models and concrete representations such as, graphs, students develop problem-solving capabilities. The technique of mapping a problem by:



has been proven to be a successful instruction technique. Students who are able to create a concrete representation have been identified as good problem-solvers. Some experts (Hegarty et al., 1992) have identified the behaviors of good and poor problem solvers. Students who strategically transform the information into an object-based representation or mental model of the problem situation before they actually begin finding a solution are more apt to be successful.

Overall, providing students with strategies to complete mathematics has proven to be a successful instruction technique.

What the research says about Practice and Review:

Geary (1994) identifies practice and review as one of the primary ways to develop foundational skills in mathematics. A number of studies have addressed the importance of practice for skill retention. Bahrick and Hall (1991) studied 1,726 individuals to examine the life span retention of content acquired in mathematics courses. The study found that although talent and achievement had some impact, the primary variable for success was practice that had occurred over time.

The district wide adoption of a standard math curriculum for Flint Community Schools K-8 programs allows for consistent use of the strategies and techniques from school-to-school. In addition, the adoption of this same curriculum in the BSES after school program provides an easy transition from day school learning to after school day learning while reinforcing the instructional technique of practice and review.

“As can be seen, homework assignments, frequent review, and use of mental computation activity were found to correspond with favorable gains.”

(Good & Grouws, 1979, p. 359)

The organizational design of Harcourt Math provides teachers an instructional management system that makes pre and post testing and tracking student progress, easy and accurate. Teachers will be able to track large or small numbers of students through highly interactive and fun assessments in a multimedia format. Students' progress can be monitored and easily reported to parents or day school teachers through a computer generated report.

Orchard

As required by the No Child Left Behind Act, Orchard curriculum is also based upon tested instructional practices that current research has proven to be effective. For example, the content and instructional design of K-3 Language Arts programs directly correlate to the National Reading Panel's research on early reading instruction. Specifically, Orchard programs provide systematic and explicit instruction in the following key components of early reading: phonemic awareness, phonics, vocabulary, comprehension, and fluency. The philosophy behind the instructional design for Orchard is again based on the same research based theories of direct instruction, and practice and review. Orchard's program of phonics instruction includes the following three components: 1) direct teaching/ instruction, 2) practice, and 3) reading, spelling, and writing opportunities.

Pressley and McCormick (1995) believe that good instruction includes modeling, explanations, and practice. Systematic teaching with modeling and guided practice greatly benefits young children, slower learners, students from educationally disadvantaged backgrounds, and students of all ages and abilities during the early stages of learning informative material. When these particular learners are taught directly, they make much better progress and acquire the basic skills more rapidly (Thompson 1992; Lloyd 1998; Kindsvatter, Wilen, and Ishler 1992).

Teachers will plan, group and instruct students who are not meeting standards, and adjust instruction according to their needs. Teachers will use criteria like Adequate Yearly Progress to focus their efforts on reducing the number of students in the lowest MEAP categories and increasing the number of students in the highest MEAP categories. The process of assessment, analysis and adjusted instruction will repeat Deming's cycle of Plan-Do-Study-Act to improve the quality of teaching and learning.

Research has shown that this alignment process increases student achievement towards high standards (Koczor, 1984; Tallarico, 1984; Ella, 1986; Hahey, 1986). Research here in Michigan by CIERA, as reported in the Achieve Report (1988), points to the positive effects of this kind of alignment. In other words, everyone is working toward the same target.